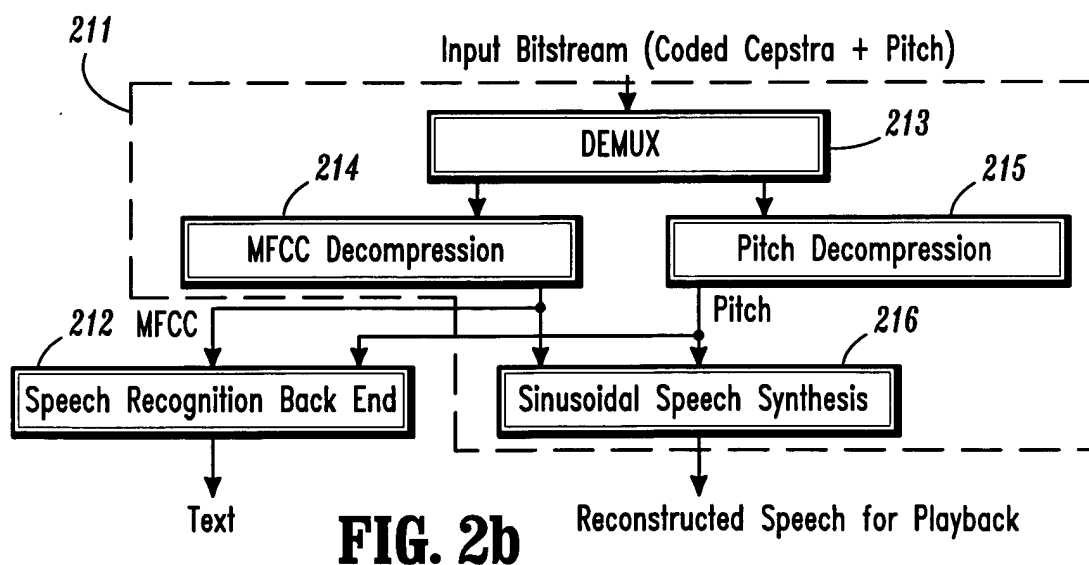
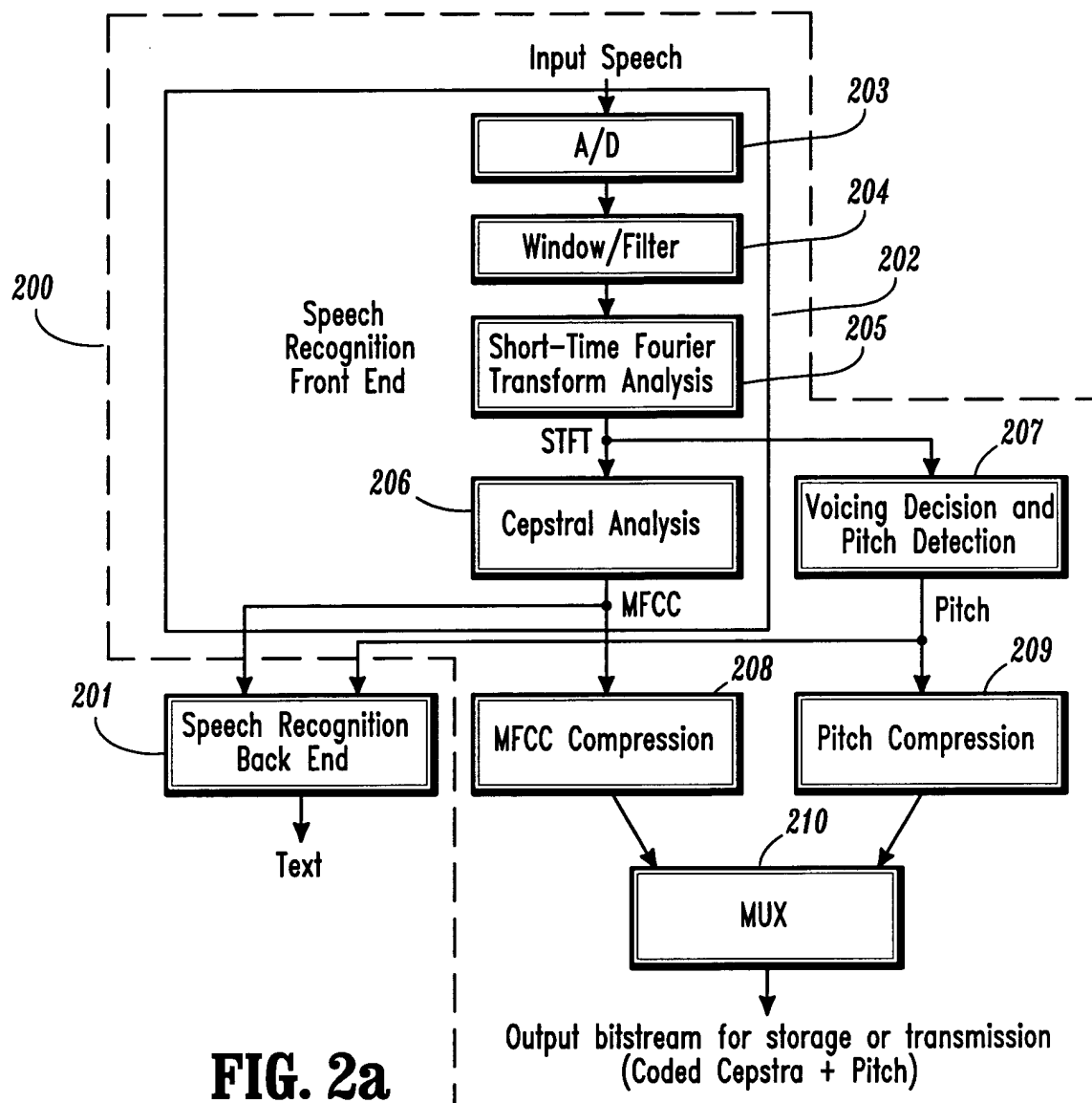


FIG. 1



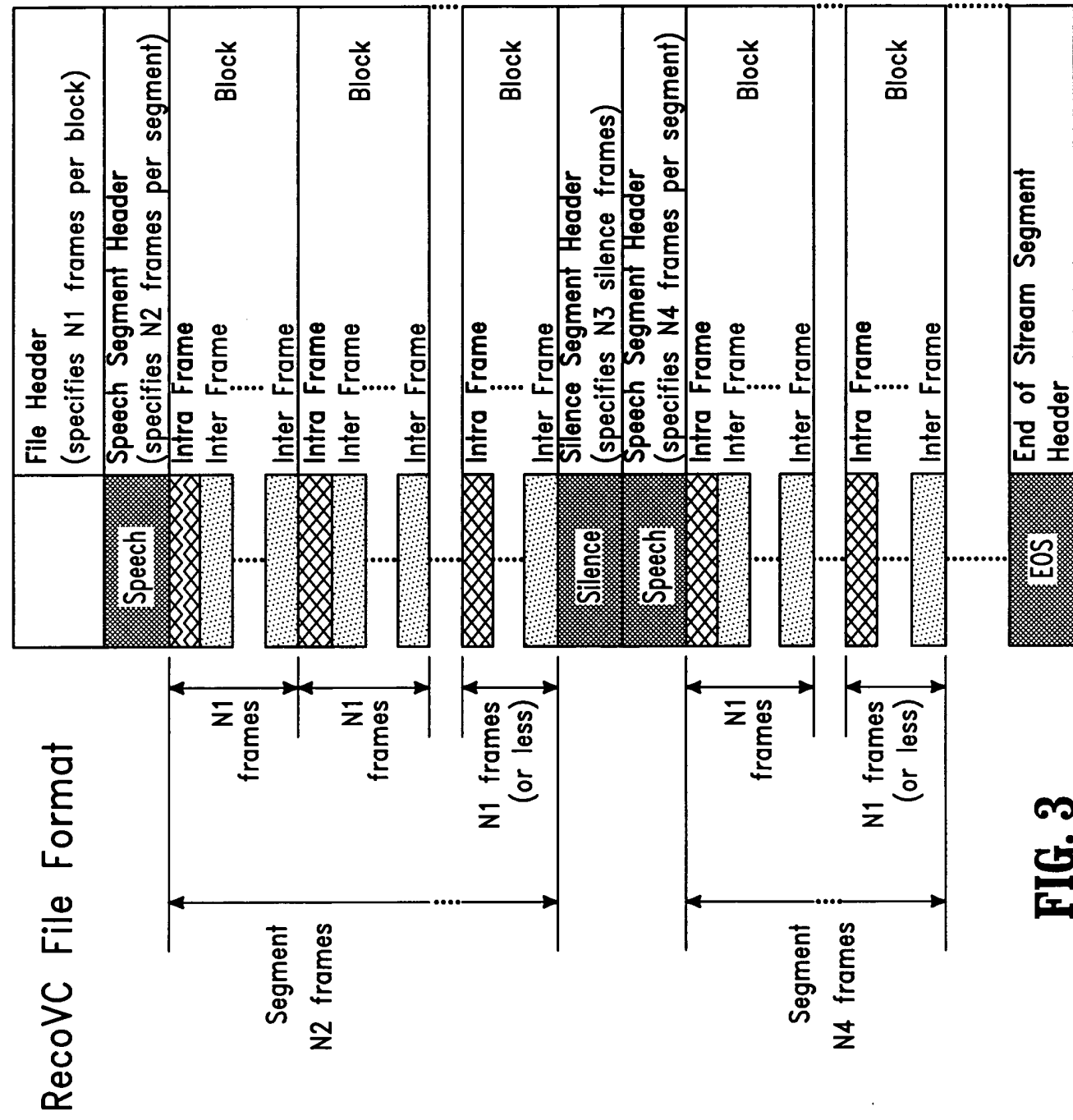


FIG. 3

FIG. 4-RecoVC File Header

Field Name	M/O	Number of Bytes	Value(s)	Description
Recovc magic number	M	4 bytes	0x2E727663	A fixed value which equals ".rvc" in ASCII representation. Used to verify that this is indeed a Recovc file.
Header length	M	2 byte	$13-(2^{16-1})$	Total number of bytes in this header
Version Major	M	1 byte	0-255	File format major version number
Version Minor	M	1 byte	0-255	File format minor version number
Frame duration	M	1 byte	0x00	Index into the frame duration table below.
Frames per block	M	1 byte	1-255	Each block can contain one intra-frame only, or one intra-frame with up to 244 additional inter-frames.
Sampling rate	M	1 byte	0x00, 0x01 or 0x02	Index into sampling rate table below.
Cepstra dimension	M	1 byte	0x00 or 0x01	Index into Cepstra vector dimension <i>l</i> type below
Language	M	1 byte	0x00	Index into language table below
Profile	M	1 byte	0x00 or 0x01	Index into profile table below
Total frames	0	4 bytes	$0-(2^{32-2})$ or 0xFFFFFFFF	Total number of audio frames in this file, INCLUDING silence frames.
Total speech frames	0	4 bytes	$0-(2^{32-2})$ or 0xFFFFFFFF	Total number of audio frames in this file, EXCLUDING silence frames.
<Ancillary Data>	0			Reserved for future usage

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Frame Duration Table

<i>Code</i>	<i>Duration (msec)</i>
<i>0x00</i>	<i>10</i>
<i>0x01–0xFF</i>	<i>Reserved</i>

Sampling Rate Table

<i>Code</i>	<i>Input Sampling Rate [Hz]</i>
<i>0x00</i>	<i>8000</i>
<i>0x01</i>	<i>11025 (or 11000)</i>
<i>0x02</i>	<i>16000</i>
<i>0x03</i>	<i>22050 (or 22000)</i>
<i>0x04–0xFF</i>	<i>Reserved</i>

Cepstra Vector Dimension/type Table

<i>Code</i>	<i>Value</i>
<i>0x00</i>	<i>13</i>
<i>0x01</i>	<i>24</i>
<i>0x02–0xFF</i>	<i>Reserved</i>

Language Table

<i>Code</i>	<i>Description</i>
<i>0x00</i>	<i>English</i>
<i>0x01–0xFF</i>	<i>Reserved</i>

FIG. 5

Profile Table

<i>Code</i>	<i>Description</i>
<i>0x00</i>	<i>Recognition only—Only Cepstra is available in this file</i>
<i>0x01</i>	<i>Reconstruction enabled—Cepstra and pitch is available in the file</i>
<i>0x02–0xFF</i>	<i>Reserved</i>

Speech and Silence Segment Headers (5 Byte)

<i>Field Name</i>	<i>M/O</i>	<i>Number of bytes</i>	<i>Value(s)</i>	<i>Description</i>
<i>Segment type</i>	<i>M</i>	<i>1 byte</i>	<i>0x00 or 0x01</i>	<i>Index into segment type table below (speech or silence)</i>
<i>Number of frames</i>	<i>M</i>	<i>4 bytes</i>	<i>0–(2³¹–2) or 0xFFFFFFFF</i>	<i>The total number of frames in this segment.</i>

End of Stream and Data Segment Headers

<i>Field Name</i>	<i>M/O</i>	<i>Number of bytes</i>	<i>Value(s)</i>	<i>Description</i>
<i>Segment type</i>	<i>M</i>	<i>1 byte</i>	<i>0x02 or 0x03–0xFF</i>	<i>Index into segment type table below (end of stream or data)</i>
<i>Segment length</i>	<i>M</i>	<i>4 bytes</i>	<i>5–(2³¹–1)</i>	<i>The total number of bytes in this segment.</i>
<i><Ancillary Data></i>	<i>0</i>			<i>Place optional data here</i>

FIG. 6

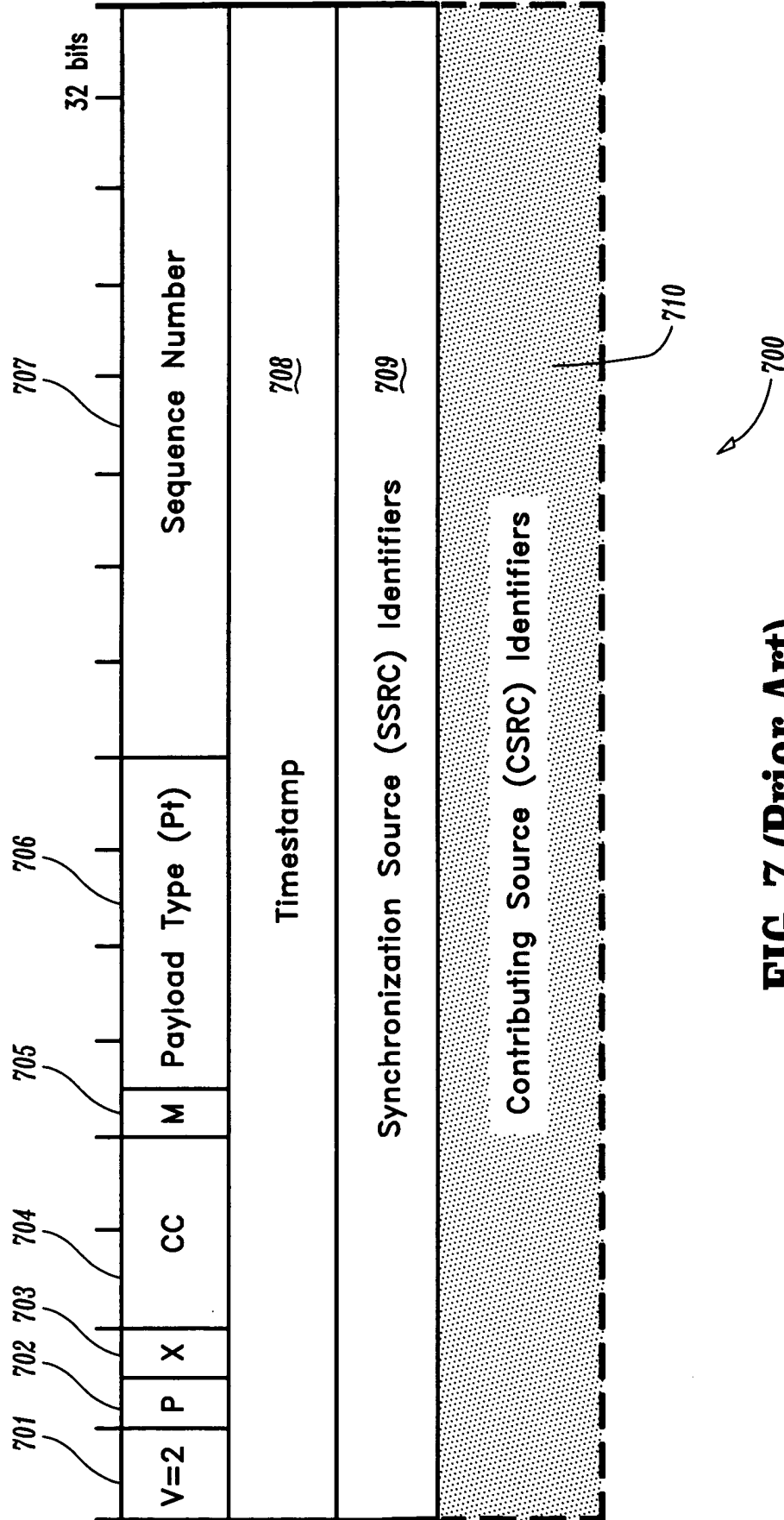


FIG. 7 (Prior Art)

RTCCP

RTP initiated around RecoVC.xxx with X=1
or Changes of CODEC:

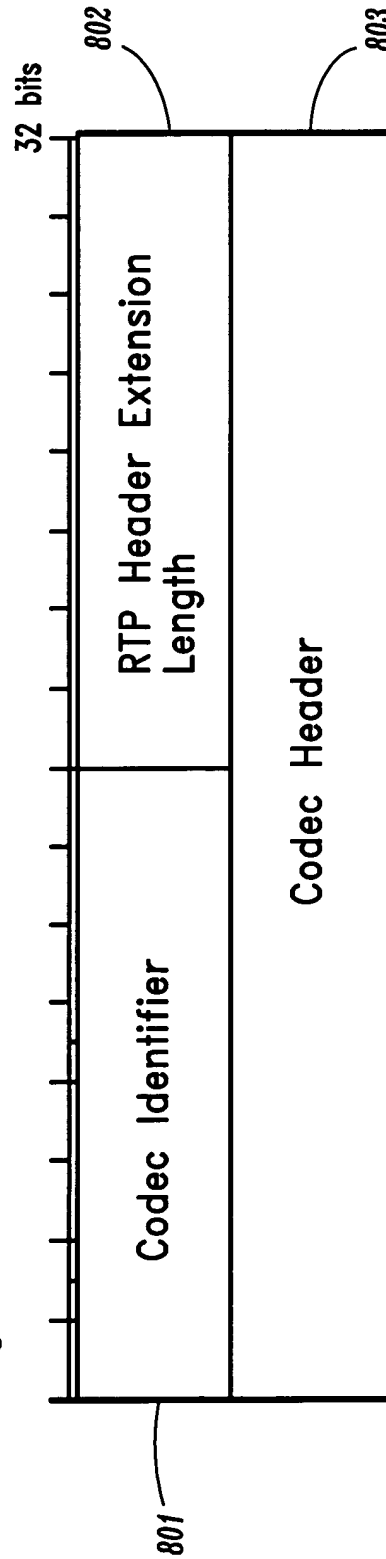


FIG. 8

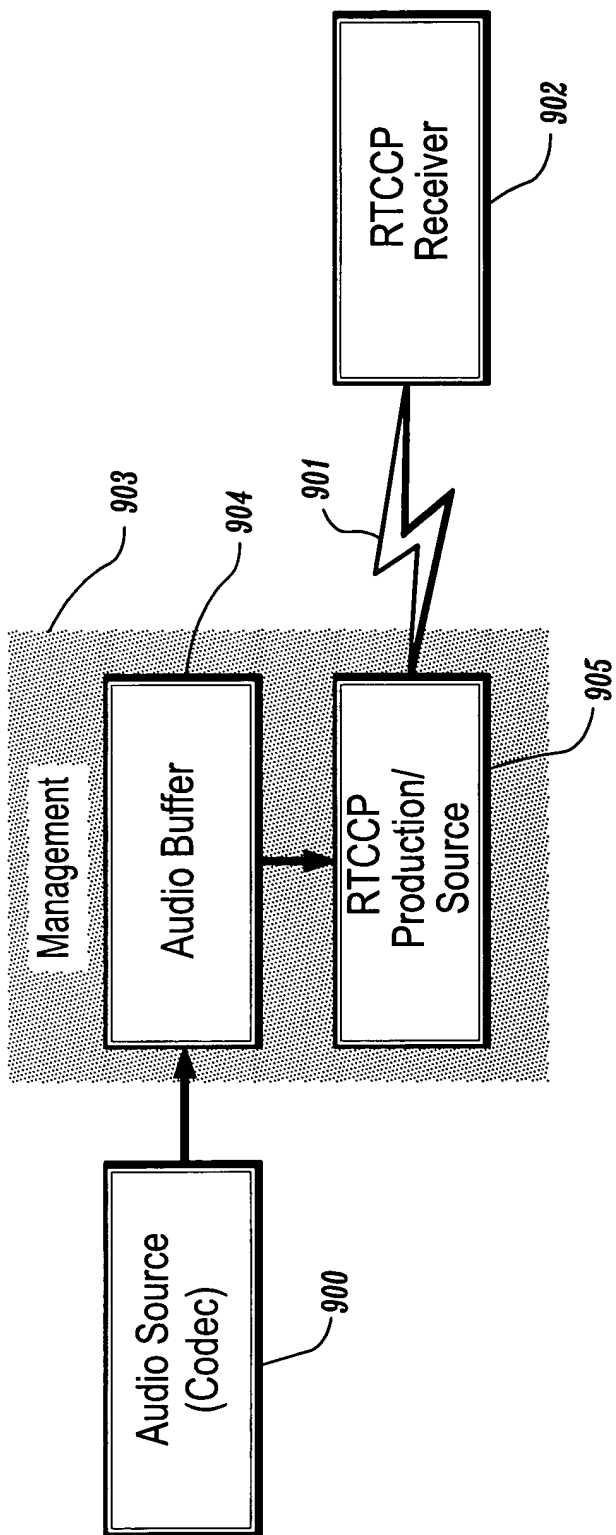


FIG. 9

Protocols structure:

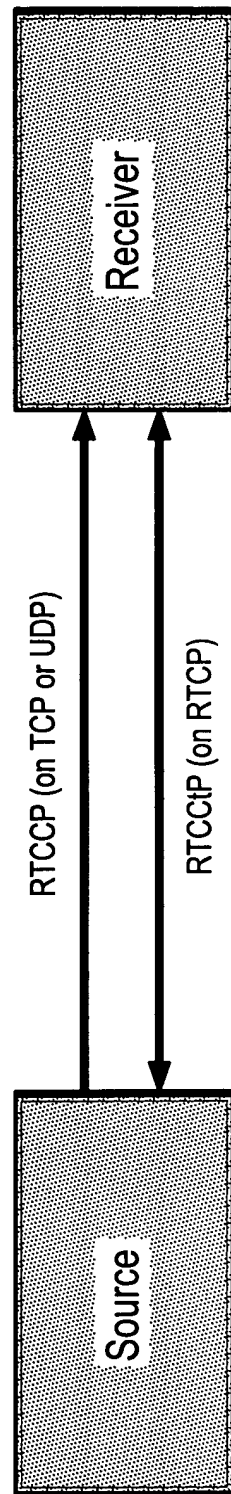


FIG. 11

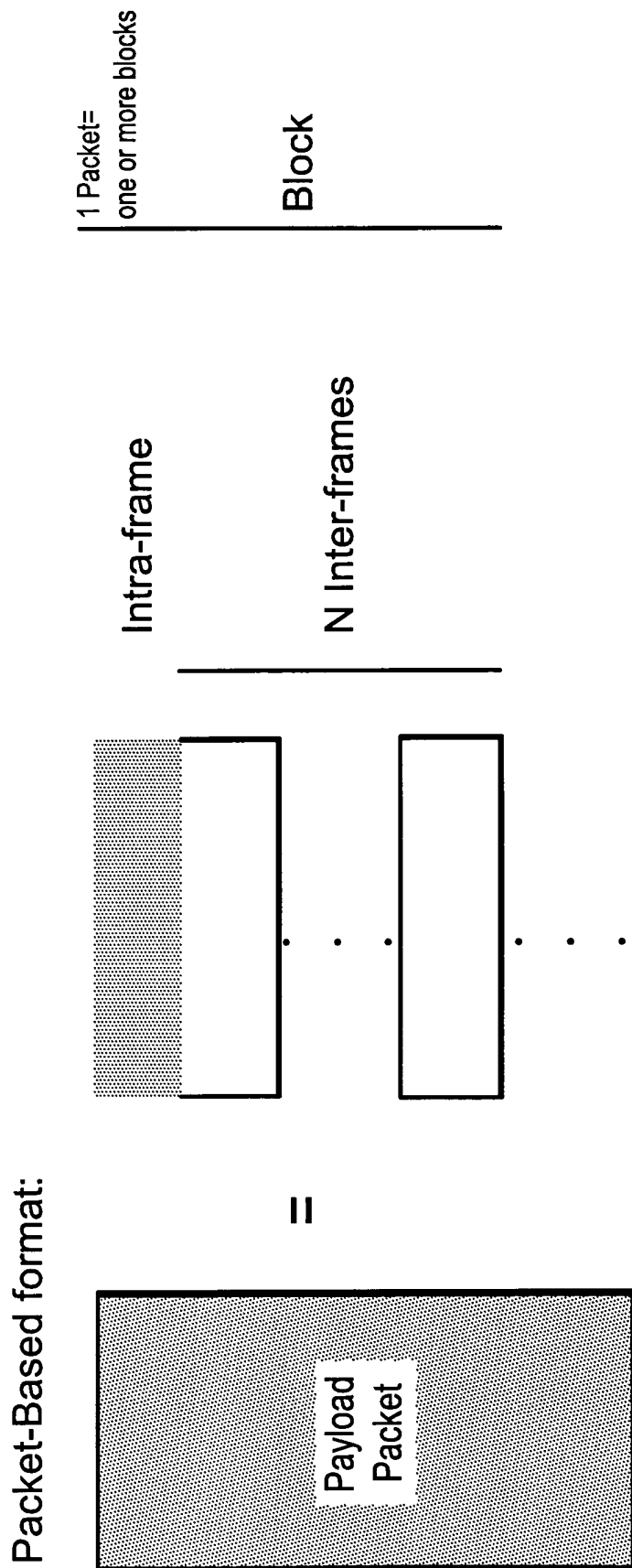


FIG. 10

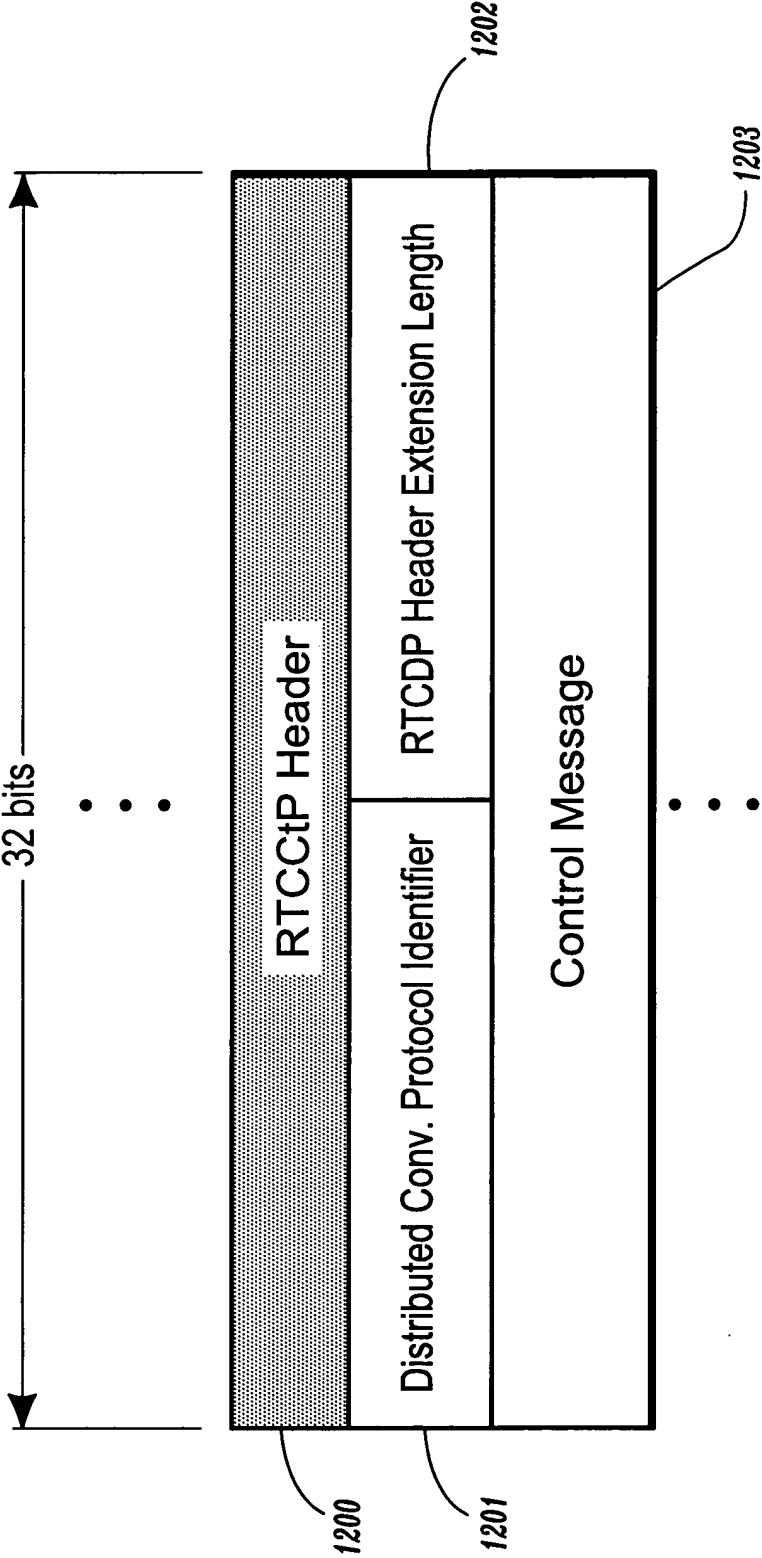
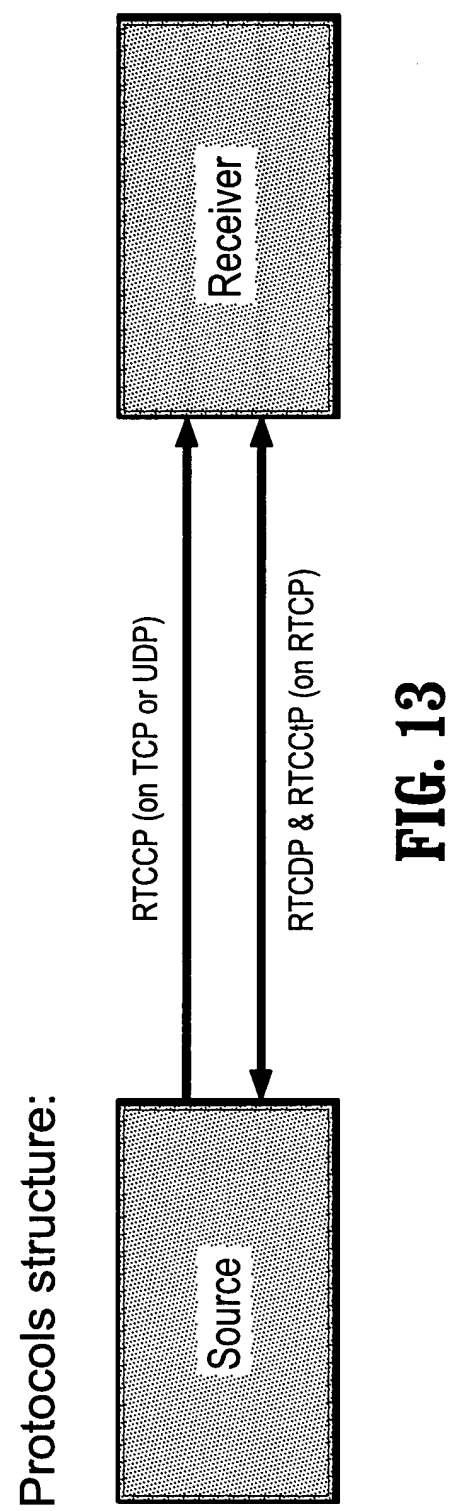
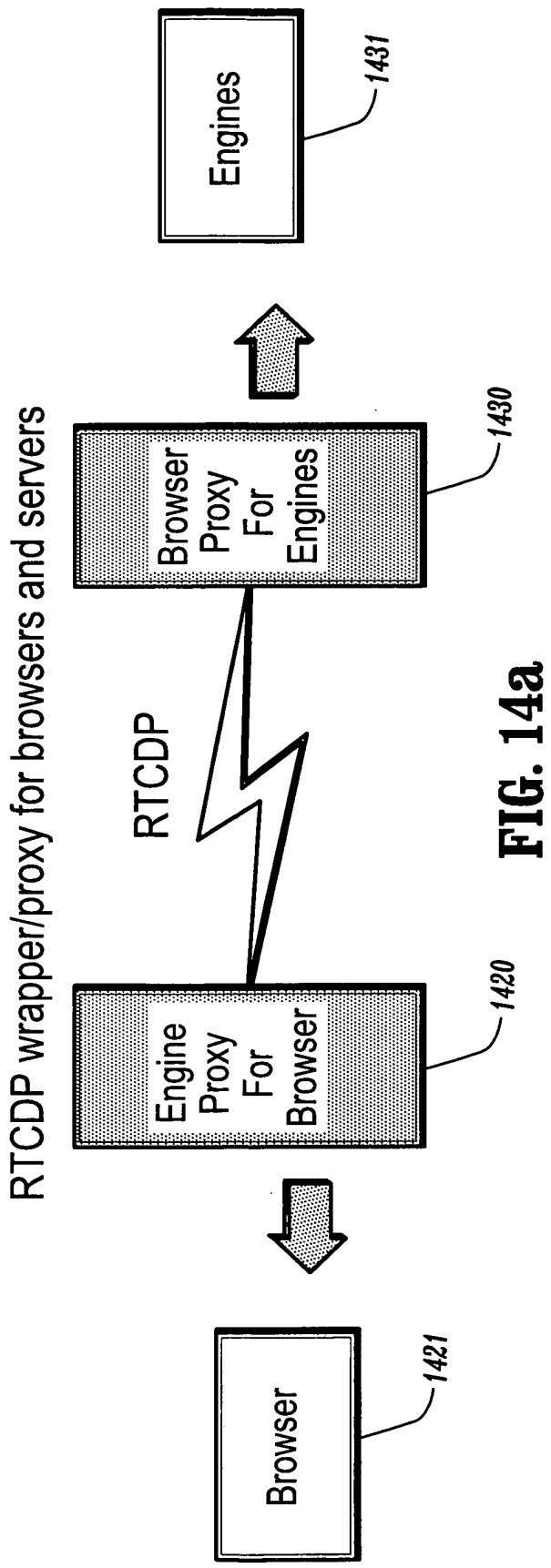
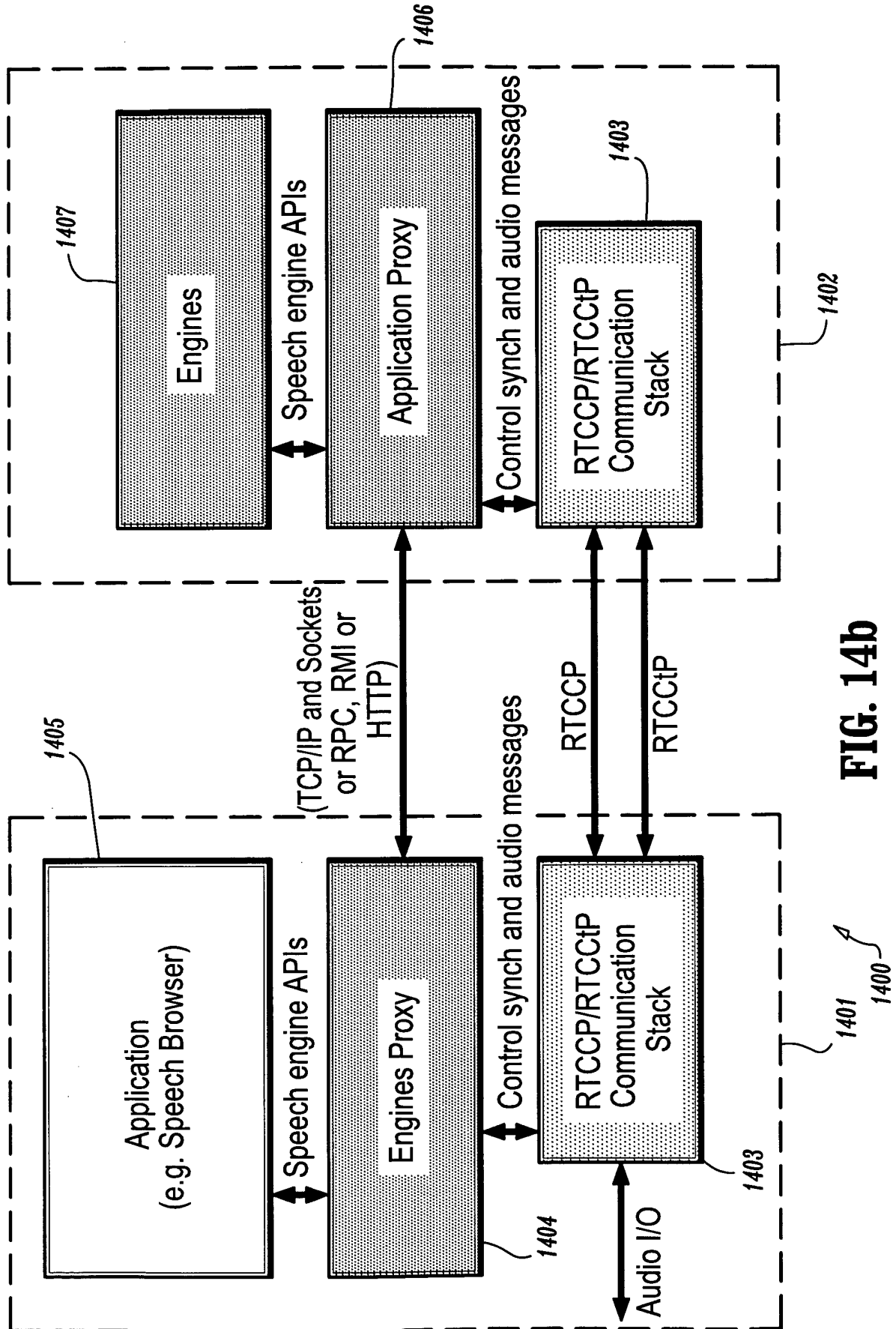


FIG. 12





Conversational protocols (Umbrella stack)

Higher Level
APIs
•
•
•

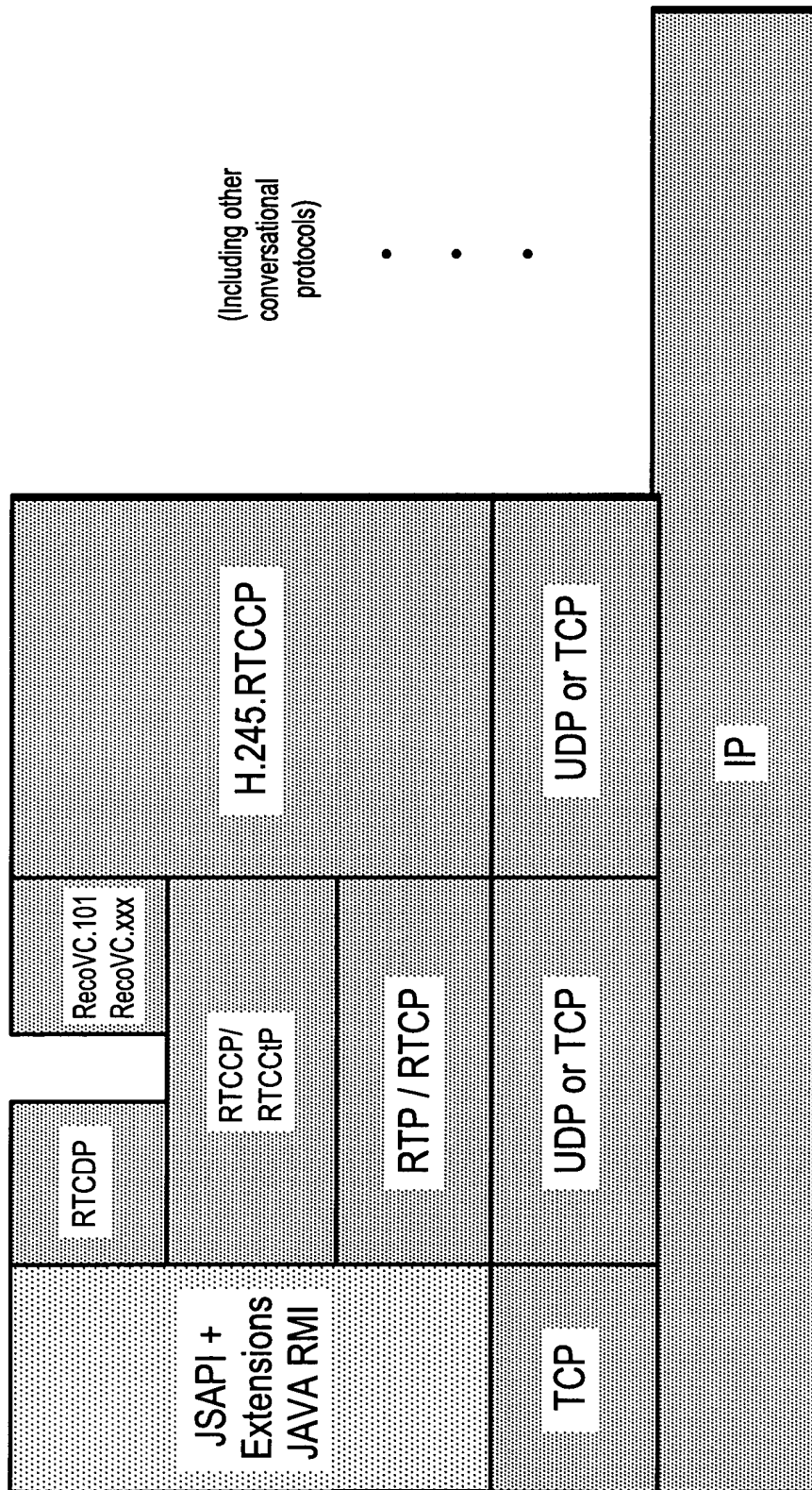


FIG. 15

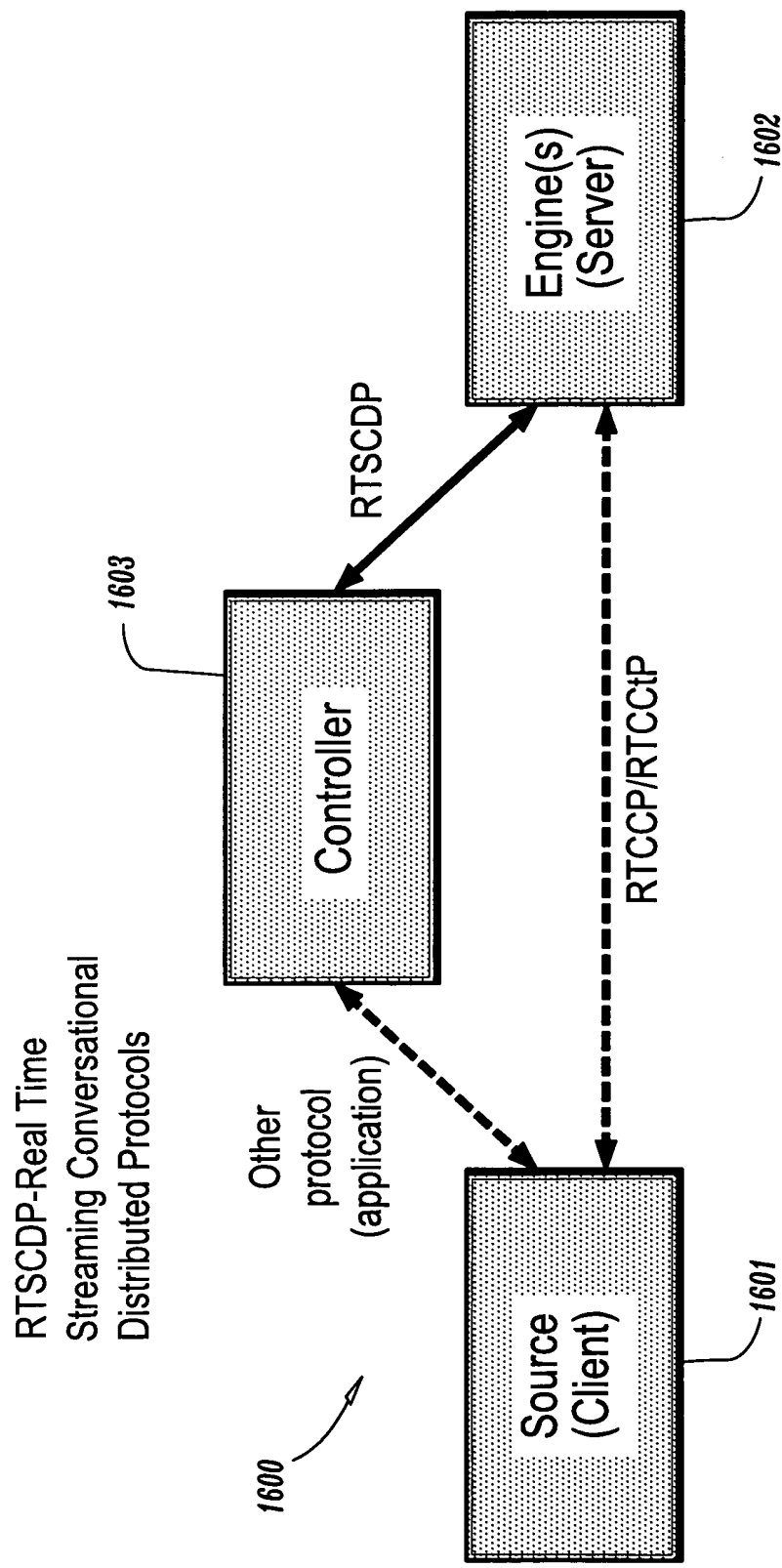


FIG. 16

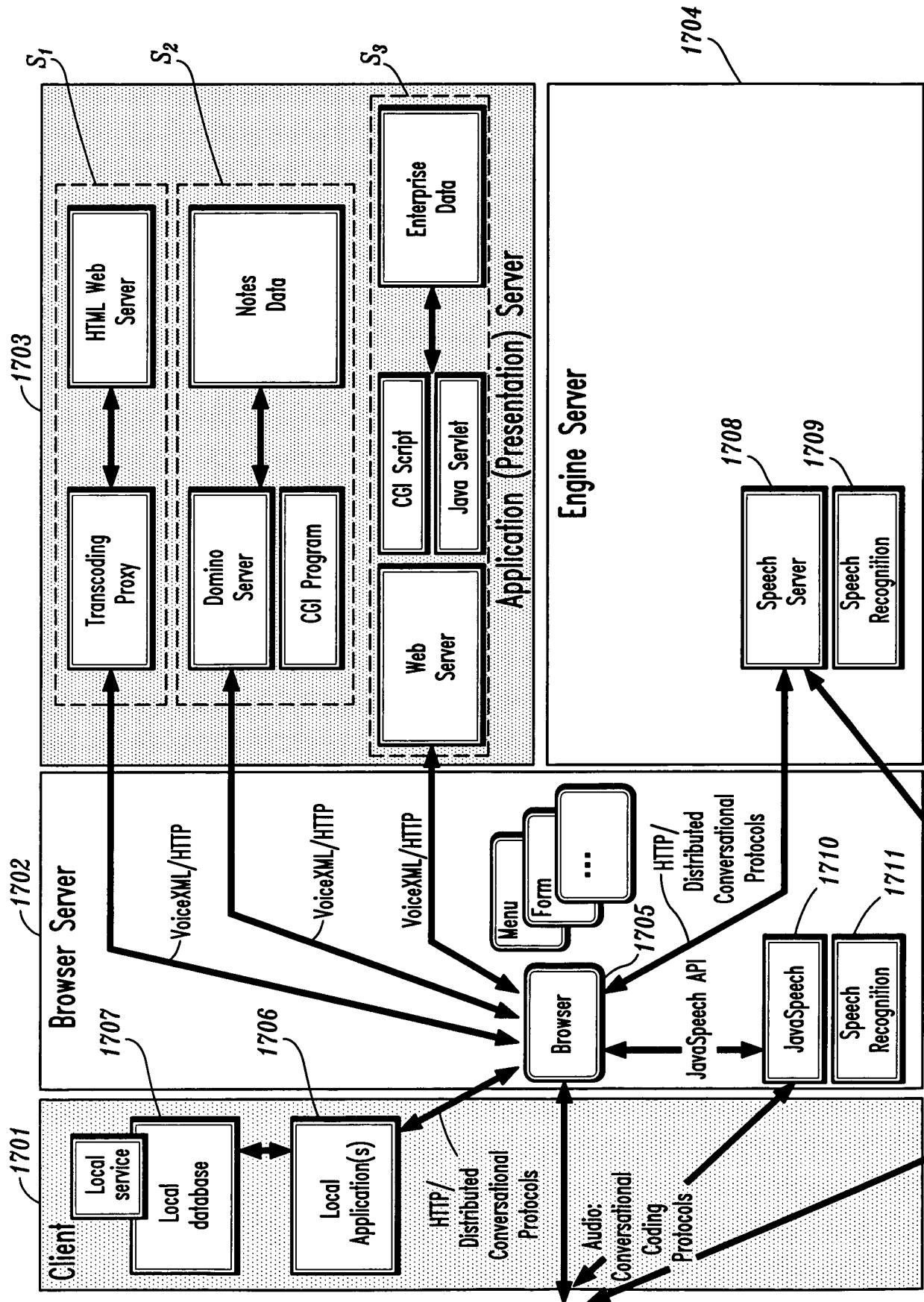


FIG. 17

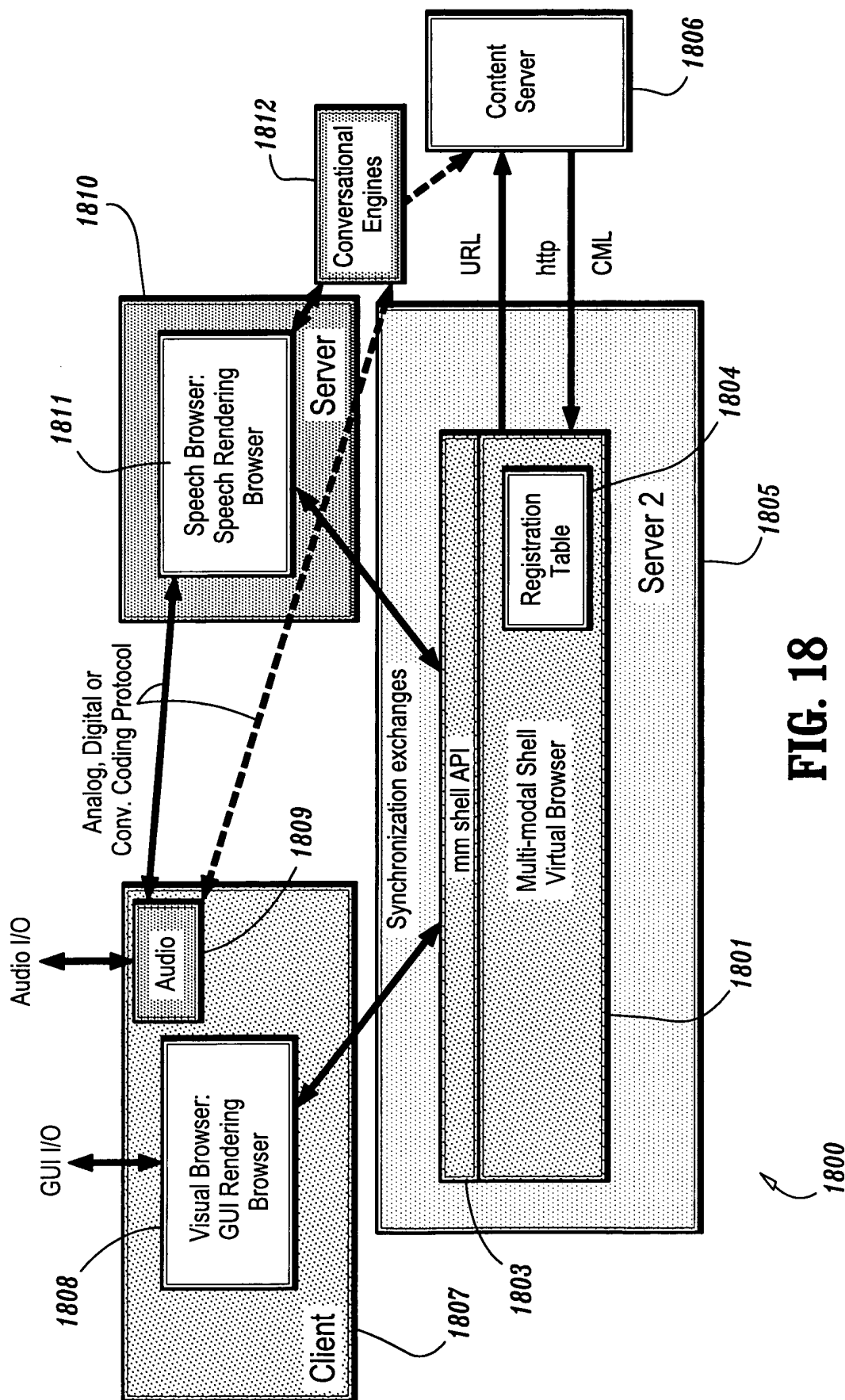


FIG. 18

